Claims:

1. A light source, comprising:

a mounting member;

electrical conductors extending from the mounting member;

a light emitting device mounted on the mounting member and electrically connected to the electrical conductors, for generating light having a predetermined wavelength;

two optical detectors arranged on opposite sides of the light emitting device and connected with the electrical conductors;

a can mounted on the mounting member and enclosing the light emitting device and the optical detectors; and

a diffraction grating fixed in the can, the diffraction grating defining a plurality of parallel grooves facing the light emitting device, each groove having a depth D, adjacent grooves being separated by a distance A, and a sum of the distance A and a width of any one groove being defined as a distance B; wherein part of light beams generated by the light emitting device are reflected by the diffraction grating, the reflected beams include at least zero order light beams and a ±1 order light beams, the depth D and the distances A and B are determined so that the reflected light beams concentrate on the ±1 order light beams, and the optical detectors are located so that they collect most of the ±1 order light beams,

wherein a desired ratio of intensity of the ±1 order light beams to the zero order light beams can be obtained by selecting a suitable depth D, distance A, and duty cycle F, wherein F=A/B;

whereby when the intensity of the reflected light beams substantially concentrates on the ±1 order light beams, the ±1 order light beams are substantially collected by the optical detectors.

2. The light source as described in claim 1, wherein the light emitting device is a surface-emitting laser.

3. The light source as described in claim 1, wherein the diffraction grating is made of glass.

4. The light source as described in claim 1, wherein the can defines a window, and the diffraction grating is mounted in the window.

5. A light source electrically connecting to a controlling circuit, the light source comprising:

a mounting member;

electrical conductors extending from the mounting member;

a light emitting device mounted on the mounting member and electrically connected to the electrical conductors, for generating light having a predetermined wavelength;

two optical detectors arranged on opposite sides of the light emitting device and connected with the electrical conductors;

a can mounted on the mounting member and enclosing the light emitting device and the optical detectors; and

a diffraction grating fixed on the can, the diffraction grating defining a plurality of parallel grooves facing the light emitting device, each groove having a depth D, adjacent grooves being separated by a distance A, and a sum of the distance

A and a width of any one groove being defined as a distance B; wherein part of light beams generated by the light emitting device are reflected by the diffraction grating, the reflected light beams include at least zero order light beams and ±1 order light beams, the depth D and the distances A and B are determined so that the reflected light beams concentrate on the ±1 order reflected beams, and the optical detectors are located so that they collect most of the ±1 order beams;

wherein a desired ratio of intensity of ±1 order light beams to zero order light beams can be obtained by selecting a suitable groove depth D, distance A, and duty cycle F, wherein F=A/B,

whereby when the intensity of the reflected light beams substantially concentrates on the ±1 order light beams, the ±1 order light beams are substantially collected by the optical detectors and converted into corresponding electrical signals transmitted to the controlling circuit, thereby precisely controlling output power of the light emitting device.

6. The light source as described in claim 5, wherein the light emitting device is a surface-emitting laser.

7. The light source as described in claim 5, wherein the can defines a window, and the diffraction grating is mounted in the window.

8. The light source as described in claim 5, wherein the diffraction grating is made of glass.

9. A laser based light source comprising:

a light emitting device generating a light;

a diffraction grating spaced from said light emitting device and the light is

directed to; and

at least an optical detector positioned beside the light emitting device, and along with said light emitting device on a same side of said diffraction grating commonly facing thereto; wherein

said optical detector is located in a position where a main reflected light beam resulting from the light hitting the diffraction grating with a specific reflection angle, is targeted thereon.

10. The light source as described in claim 9, wherein said specific reflection angle results in said main reflected light beam to be either a reflected +1 order light beam or a reflected –1 order light beam.

11. The light source as described in claim 10, wherein another optical detector is positioned opposite to said optical detector, and cooperates therewith to receive both said reflected +1 order light beam and said reflected –1 order light beam, respectively.

12. The light source as described in claim 11, wherein said another optical detector and said optical detector are located by two sides of said light emitting device.

13. The light source as described in claim 9, wherein an incident angle of the light from the light emitting device relative to the diffraction grating is zero.

14. A method of making a laser-based light source, comprising the steps of:

providing a light emitting device generating a light;

providing a diffracting grating spaced from said light emitting device; and

providing an optical detector device aside said light emitting device where a reflected +1 order or –1 order light beam derived from the light hitting said

diffraction grating, is substantially completely targeted.

15. The method as described in claim 14, further comprising a step of controlling an output power of the light emitting device according to what is detected by said optical detector.

16. The method as described in claim 14, wherein the optical detector device receives both the reflected +1 and –1 order light beams.

17. The method as described in claim 16, wherein said optical detector device includes a pair of detectors respectively to receive said reflected +1 and –1 order light beams.

18. The method as described in claim 17, wherein said pair of detectors are respectively positioned by two sides of said light emitting device.

19. A laser based light source comprising:

a light emitting device generating a light;

a diffraction grating spaced from said light emitting device and the light is directed to; and

a pair of optical detectors positioned by two opposite sides of the light emitting device, and along with said light emitting device on a same side of said diffraction grating commonly facing thereto.

20. The light source as described in claim 19, wherein both ±1 order light beams derived from the light hitting the diffraction grating, are substantially completely targeted on said pair of optical detectors, respectively.